Verification for Above Code Performance

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How a rating system improves building performance.

An Introduction to

The HERS Rating system

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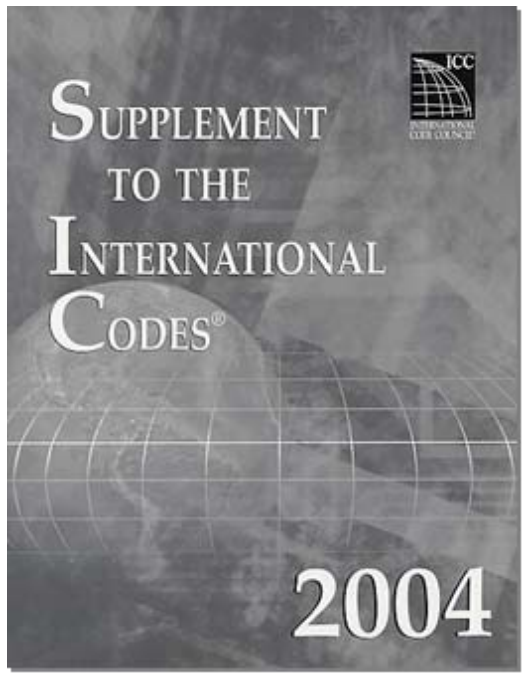
HERS Ratings

- ✓ A HERS Rating is an evaluation of the energy efficiency of a home, compared to a computer-simulated reference house.
- ✓ The reference house meets minimum requirements of the 1993 Model Energy Code (MEC)
- ✓The new 2006 reference house meets IECC 2004.



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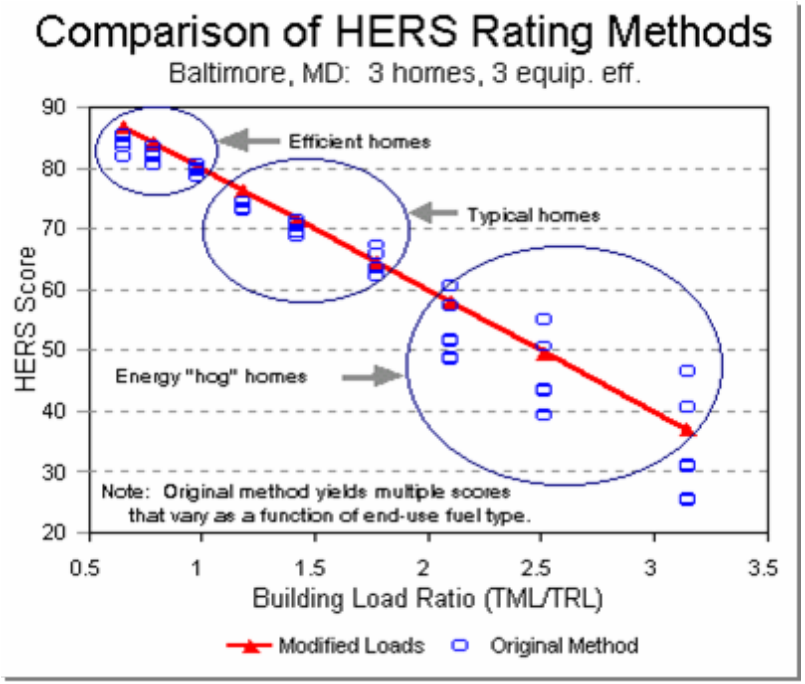
HERS Ratings

- ✓ Rating is based on a scale of 0 to 100 points.
- ✓ The MEC reference home scores an 80 on the scale.



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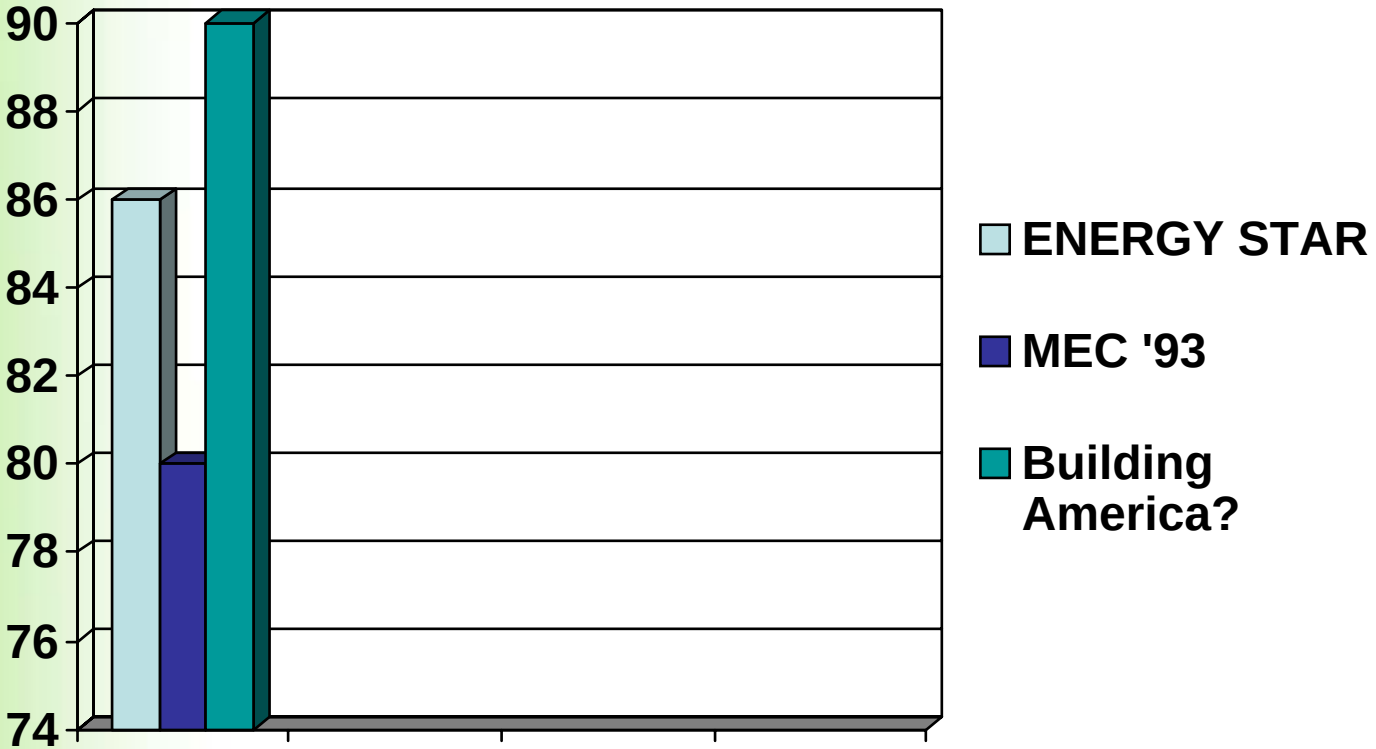
HERS Ratings



What might be the threshold for a Building America House?

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HERS Ratings

✓ From the 80 point level, each additional 1 point results in a 5% reduction in energy usage of heating, cooling & water heating.

✓ An ENERGY STAR home is currently required to be at least 30% more efficient than the reference home resulting in a minimum score of 86.

* In Texas & California, ENERGY STAR is 15% above IECC 2000.

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energy

How is a rating determined?

- ✓ Through a carefully outlined verification process performed by certified raters or third-party verifiers.

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What is a Rater?

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Why is a Rater Important?

- ✓Independent verification
- ✓Specialized knowledge
- ✓Use of diagnostic tools
- ✓Centralized data collection

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New Standards for Providers/Raters in 2006

Several new enhancements have been made regarding:

- ✓Floor Dimensions
- ✓Blower Door Testing
- ✓Rater Financial Interest
- ✓Rater Software
- ✓Continuing Education
- ✓Quality Assurance Procedures
- ✓Insulation Installation

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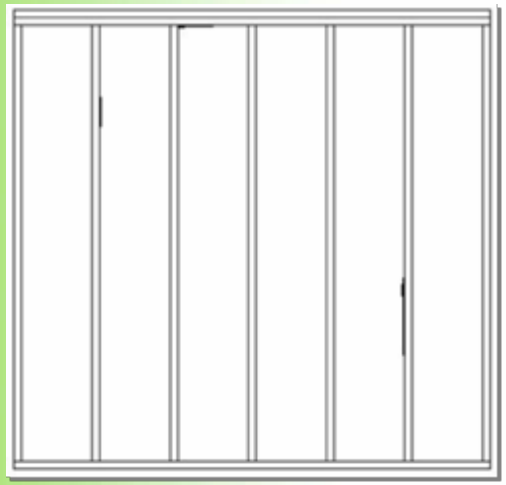
New Standards for Providers/Raters in 2006

Insulation Installation

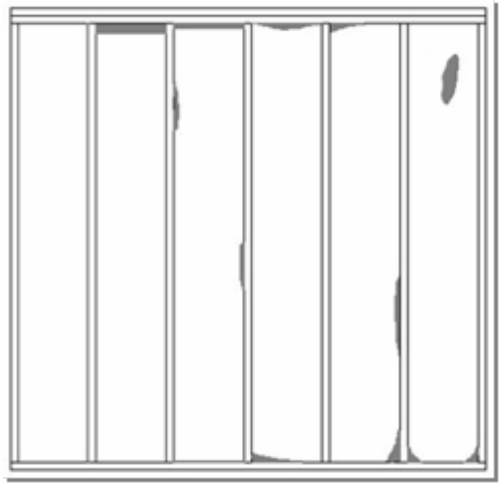
Verification

Insulation Inspection Procedures & Insulation Inspection Assessments

TECH: 2004-01 (now standardized)



Grade 1



Grade 2

Grade 3

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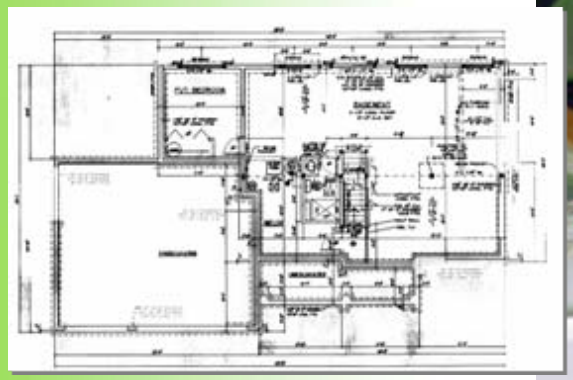
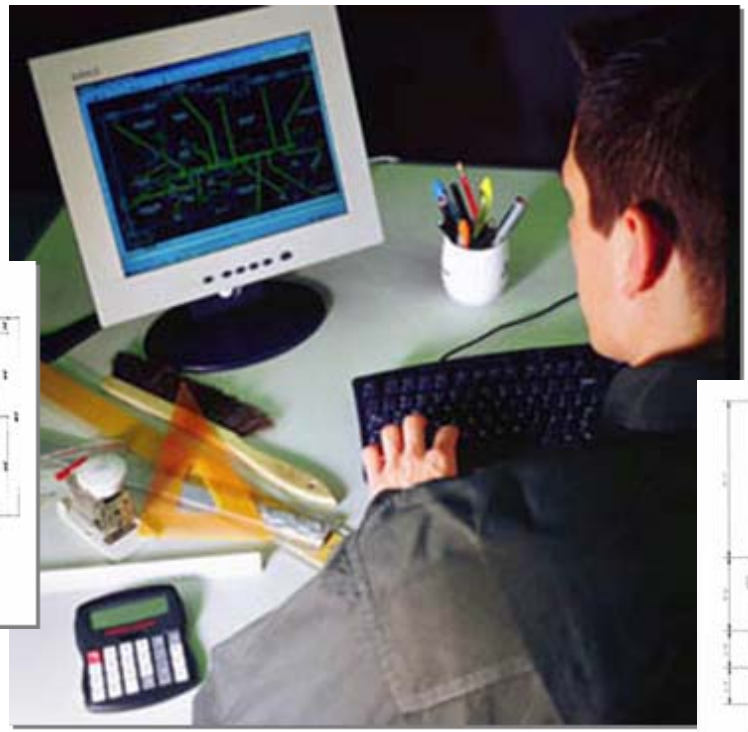
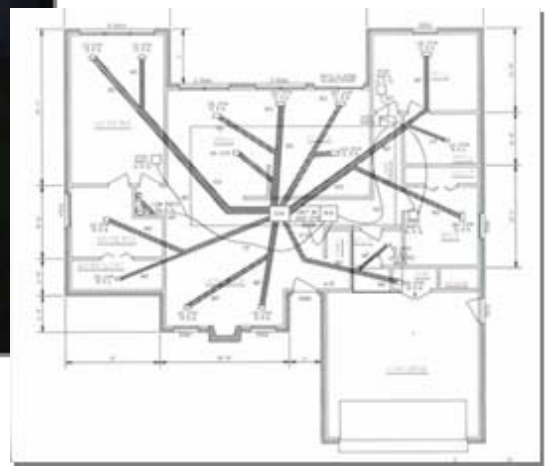
The Verification Process







Plan Analysis

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The Verification Process

Not to scale.

- ✓Site Orientation
- ✓Shaded Areas
- ✓Proposed SEER
- ✓Insulation Levels
- ✓R-values of Windows, Walls,…etc.

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Plan Analysis

The Verification Process

On-Site Inspection

*pre-drywall (not required)

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The Verification Process

Blower Door Tests

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The Verification Process

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Duct Blaster™ Tests

The Verification Process

Final Inspection

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ENERGY STAR 2006

- ✓ New RESNET (IECC 2004) Reference Home
- ✓ New ENERGY STAR Guidelines

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ENERGY STAR 2006

Example of New Proposed Guidelines

Envelope	Infiltration Sealed and Tested to ≤ .35 ac/h; and 2004 IECC Compliant Insulation Levels; and Compliance with Thermal Bypass Inspection Checklist.
Ductwork	Leakage Sealed and Tested to ≤ 4 cfm to Outdoors per 100 sq.ft.; and 2004 IECC Compliant Insulation Levels

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ENERGY STAR 2006

Example of New Proposed Guidelines

Cooling Equipment	Right-sized ENERGY STAR Qualified Central A/C or Heat Pump
Thermostats	ENERGY STAR Qualified Thermostat
Lighting & Appliances	Five or more ENERGY STAR Qualified light fixtures/ceiling fans and/or appliances

ENERGY STAR 2006

- ✓ Official Guidelines Due to be Released in August 2006.

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